AMENDMENTS TO THE CLAIMS

Please replace all prior versions, and listings, of the claims in the application with the following amended listing of claims:

1. (Previously Presented) A method of producing an angiospermous apomictic plant that exhibits an increased genetic stability for apomixis compared to an apomictic parent plant from which the apomictic plant is produced, the method comprising:

(a) producing a facultatively apomictic parent plant by:

selecting sexual plants from an angiospermous plant species, genus, or family;

cytoembryologically ascertaining the developmental timing of the nongametophytic ovule and ovary tissues consisting of the nucellus, integument, pericarp, hypanthium, or pistil wall for each of the selected plants;

choosing a first and a second plant based on the cytoembryologically ascertained developmental timing of the nongametophytic ovule and ovary tissues, wherein the initiation of embryo sac formation of the first plant is at the same time or before meiosis in the second plant;

hybridizing the first plant with the second plant;

recovering hybrid seed therefrom;

sowing the hybrid seed; and

selecting a hybrid plant that is apomictic to be the apomictic parent plant; and

(b) doubling the chromosome number of the apomictic parent plant, thereby producing an angiospermous apomictic plant with increased genetic stability for apomixis.

2. (Original) The method of claim 1, wherein the step of doubling the chromosome number comprises treating the parent plant with a spindle inhibitor.

3. (Original) The method of claim 2, wherein the spindle inhibitor comprises colchicine.

4. (Original) The method of claim 1, wherein the step of doubling the chromosome number comprises culturing the parent plant in tissue culture.

5. (Original) The method of claim 1, wherein the step of doubling the chromosome number is accomplished by B_{III} hybridization.

6. (Original) The method of claim 1, wherein the parent plant exhibits incomplete meiotic chromosome pairing such that meiotic chromosome pairing among the chromosomes of the resulting chromosome-doubled apomictic plant occurs within rather than among duplicated pairs of chromosomes.

7. (Original) The method of claim 1, wherein the parent plant is either an interspecific hybrid, so that the corresponding chromosome doubled plant is an allopolyploid, or an interracial hybrid, so that the corresponding chromosome doubled plant is a segmental allopolyploid.

8. (Original) The method of claim 1, further comprising the step of genetically modifying the apomictic plant to produce an apomictic plant in which female meiosis aborts.

9. (Original) The method of claim 8, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant containing a meiotic mutant.

10. (Original) The method of claim 8, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant of a different ploidy level so that the apomictic plant produced is of an odd ploidy level.

11-12. (Cancelled)

13. (Previously Presented) A method of producing an angiospermous apomictic plant that exhibits an increased genetic stability for apomixis compared to an apomictic parent plant from which the apomictic plant is produced, the method comprising:

(a) producing a facultatively apomictic parent plant by:

selecting sexual plants from an angiospermous plant species, genus, or family;

cytoembryologically ascertaining the developmental timing of the nongametophytic ovule and ovary tissues consisting of the nucellus, integument, pericarp, hypanthium, or pistil wall for each of the selected plants;

choosing a first and a second plant based on the cytoembryologically ascertained developmental timing of the nongametophytic ovule and ovary tissues, wherein the initiation of embryo sac formation of the first plant is at the same time or before meiosis in the second plant;

hybridizing the first plant with the second plant;

recovering hybrid seed therefrom;

sowing the hybrid seed; and

selecting a hybrid plant that is apomictic to be the apomictic parent plant; and

(b) genetically modifying the apomictic parent plant so that female meiosis is aborted, thereby producing an angiospermous apomictic plant with increased genetic stability for apomixis.

14. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by hybridization with a plant containing a meiotic mutant.

15. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by hybridization with a plant of a different ploidy level so that the apomictic plant produced is of an odd ploidy level.

16. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by B_{III} hybridization.

17. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by transforming the parent plant with a promoter/gene construct that inhibits female meiosis.

18. (Original) The method of claim 13, further comprising the step of doubling the chromosome number of the apomictic parent plant.

19-28. (Cancelled)

29. (Currently Amended) A method of producing a genetically stabilized angiospermous apomictic plant, the method comprising:

cytoembryologically ascertaining the developmental timing of the nongametophytic ovule and ovary tissues ~~consisting of the nucellus, integument, pericarp, hypanthium, or pistil wall~~ of sexual plants, from an angiospermous plant species, genus, or family;

choosing a first and a second sexual parent plant based on the cytoembryologically ascertained developmental timing of the nongametophytic ovule and ovary tissues of the sexual plants, wherein the initiation of embryo sac formation of the first plant is at the same time or before meiosis in the second plant;

doubling the chromosome number of at least one of the sexual parent plants;

hybridizing the first sexual parent plant with the second sexual parent plant to produce hybrid seed therefrom;

sowing the hybrid seed; and

selecting a hybrid plant that is an angiospermous apomictic plant with increased genetic stability for apomixis compared to the sexual parent plants.

30. (Original) The method of claim 29, wherein the step of doubling the chromosome number comprises treating the selected sexual plant with a spindle inhibitor.

31. (Original) The method of claim 30, wherein the spindle inhibitor comprises colchicine.

32. (Original) The method of claim 29, wherein the step of doubling the chromosome number comprises culturing the selected sexual plant in tissue culture.

33. (Original) The method of claim 29, wherein the step of doubling the chromosome number is accomplished by B_{III} hybridization.

34. (Original) The method of claim 29, further comprising the step of genetically modifying the apomictic plant to produce an apomictic plant in which female meiosis aborts.

35. (Original) The method of claim 34, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant containing a meiotic mutant.

36. (Original) The method of claim 34, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant of a different ploidy level so that the apomictic plant produced is of an odd ploidy level.

37-39. (Cancelled)

40. (Previously Presented) The method of claim 1, wherein the sexual plants are selected from *Antennaria, Sorghum* or *Tripsacum.*

41. (Previously Presented) The method of claim 13, wherein the sexual plants are selected from *Antennaria, Sorghum* or *Tripsacum.*

42. (Previously Presented) The method of claim 29, wherein the sexual plants are selected from *Antennaria, Sorghum* or *Tripsacum.*

43. (New) A method of producing an angiospermous apomictic plant that exhibits an increased genetic stability for apomixis compared to an apomictic parent plant from which the apomictic plant is produced, the method comprising:

(a) quantifying divergence in female developmental schedules of plants from an angiospermous plant species, genus, or family;

identifying and selecting a first and second sexual plant from an angiospermous plant species, genus, or family based on differences in the timing of female development schedules quantified in step (a), wherein the initiation time of embryo sac formation in the first plant occurs at about the same time as or before megasporogenesis in the second plant relative to the developmental maturity of the nongametophytic ovule and ovary tissues;

hybridizing the first plant and second plant;

recovering seed therefrom;

sowing the seed, and

selecting a hybrid plant that is apomictic; and

(b) doubling the chromosome number of the apomictic parent plant, thereby producing an angiospermous apomictic plant with increased genetic stability for apomixis.

44. (New) The method of claim 43, wherein the step of quantifying divergence in female developmental schedules of plants including collecting data comprising the meiotic or embryo sac development stage, pistil length and width, inner and outer integument lengths, and meiocyte or embryo sac length and width; and the step of identifying and selecting a first and second sexual plants involves selecting plants such that a hybrid of the first and second sexual plant would result in asynchronous female development.

45. (New) The method of claim 44, wherein the first plant and/or the second plant are obtained by plant breeding and the step of quantifying divergence in female developmental schedules includes comparing pistil and integument lengths and widths against the lengths and widths of the pistil and integument lengths at the mature lengths and widths at stigma exsertion.

46. (New) The method of claim 43, wherein the step of quantifying divergence in female developmental schedules of plants includes at least two of the following: meiotic or embryo sac development stage, pistil length and width, inner and outer integument lengths, and meiocyte or embryo sac length and width.

47. (New) The method of claim 43, wherein the step of quantifying divergence in female developmental schedules of plants includes producing data by screening plants within an angiospermous plant species, genus, or family for differences in the timing of initiation of megasporogenesis and embryo sac formation relative to the developmental maturity of nongametophytic ovule and ovary tissues among the plants including comparing pistil and integument lengths and widths against the lengths and widths of the pistil and integument lengths at the mature lengths and widths at stigma exsertion.

48. (New) A method of producing an angiospermous apomictic plant that exhibits an increased genetic stability for apomixis compared to an apomictic parent plant from which the apomictic plant is produced, the method comprising:

(a) quantifying divergence in female developmental schedules of plants from an angiospermous plant species, genus, or family including cytologically analyzing the female meiotic prophase, dyad, tetrad, and degenerating megaspore stages, or nucleate embryo sac stages and collecting data including at least one of the following: meiotic or embryo sac development stage, pistil length and width, inner and outer integument lengths, and meiocyte or embryo sac length and width;

identifying and selecting a first and second sexual plant from an angiospermous plant species, genus, or family based on differences in the timing of female development schedules quantified in step (a), wherein the initiation time of embryo sac formation in the first plant occurs at about the same time as or before megasporogenesis in the second plant relative to the developmental maturity of the nongametophytic ovule and ovary tissues;

hybridizing the first plant and second plant;

recovering seed therefrom;

sowing the seed, and

selecting a hybrid plant that is apomictic; and

(b) doubling the chromosome number of the apomictic parent plant, thereby producing an angiospermous apomictic plant with increased genetic stability for apomixis.